FIG. 1
(PRIOR ART)

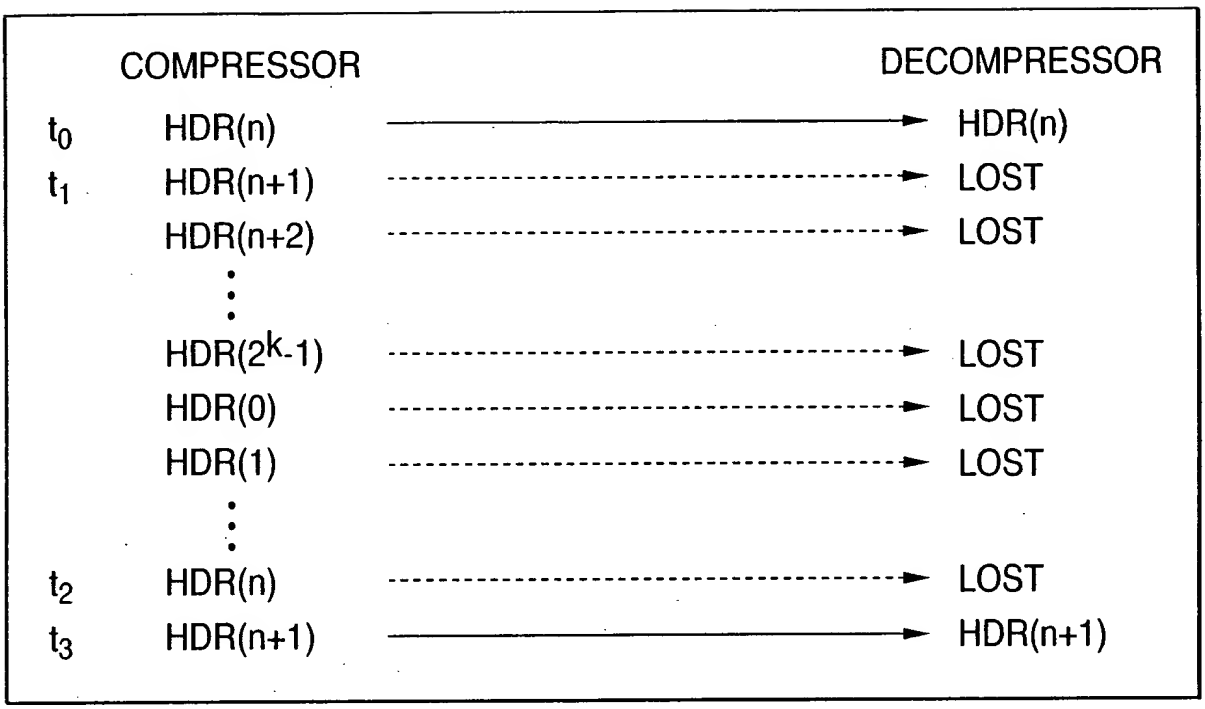


FIG. 19

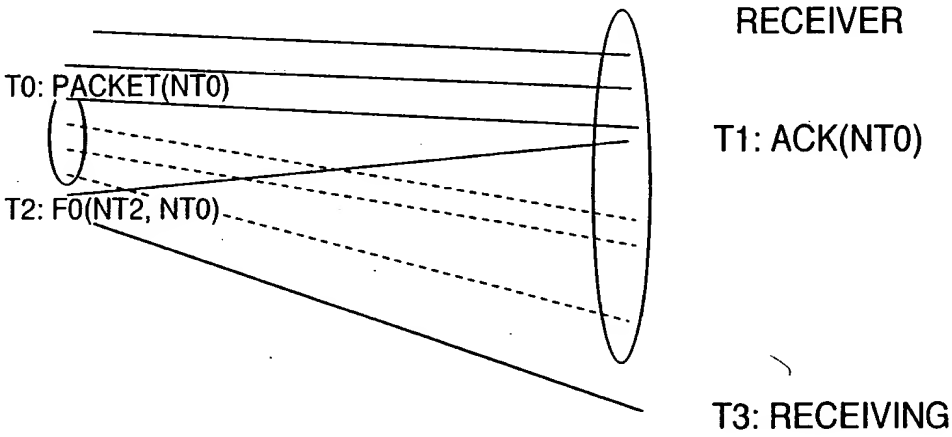


FIG. 2

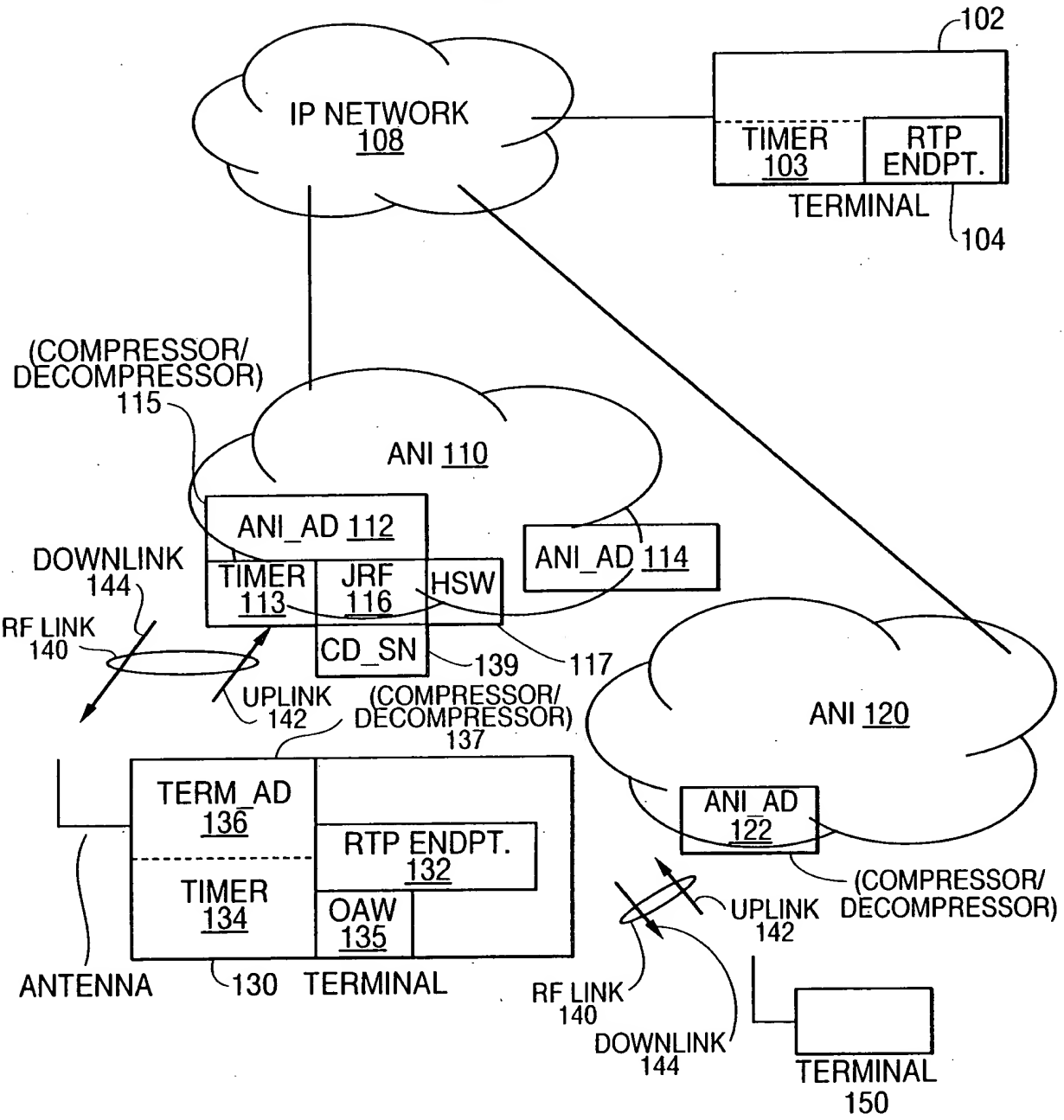

IP NETWORK
108
102
TIMER
103
RTP
ENDPT.
TERMINAL
104
(COMPRESSOR/
DECOMPRESSOR)
115
ANI 110
ANI_AD 112
TIMER
113
JRF
116
HSW
ANI_AD 114
DOWNLINK
144
RF LINK
140
CD_SN
139
117
UPLINK
142
(COMPRESSOR/
DECOMPRESSOR)
137
ANI 120
TERM_AD
136
RTP ENDPT.
132
TIMER
134
OAW
135
ANI_AD
122
(COMPRESSOR/
DECOMPRESSOR)
UPLINK
142
ANTENNA
130
TERMINAL
RF LINK
140
DOWNLINK
144
TERMINAL
150

FIG. 3

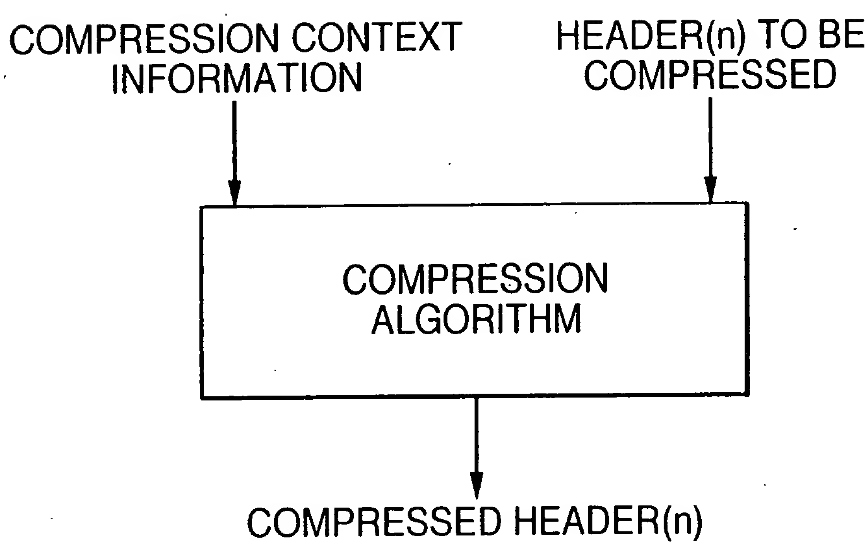

COMPRESSION CONTEXT INFORMATION
HEADER(n) TO BE COMPRESSED
COMPRESSION ALGORITHM
COMPRESSED HEADER(n)

FIG. 4

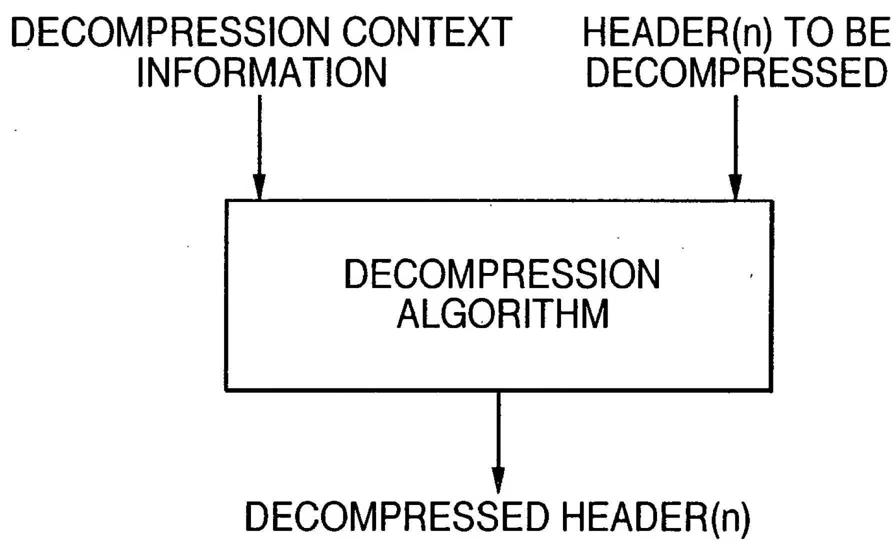

DECOMPRESSION CONTEXT INFORMATION
HEADER(n) TO BE DECOMPRESSED
DECOMPRESSION ALGORITHM
DECOMPRESSED HEADER(n)

FIG. 5A

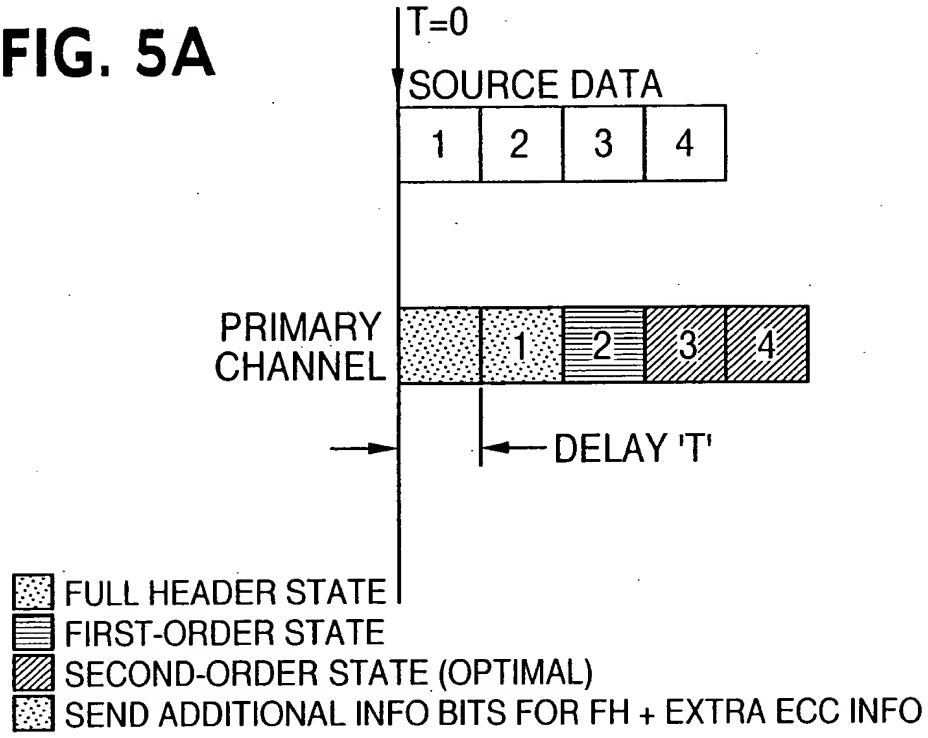

T=0
SOURCE DATA
1
2
3
4
PRIMARY CHANNEL
1
2
3
4
DELAY 'T'
FULL HEADER STATE
FIRST-ORDER STATE
SECOND-ORDER STATE (OPTIMAL)
SEND ADDITIONAL INFO BITS FOR FH + EXTRA ECC INFO

FIG. 5B

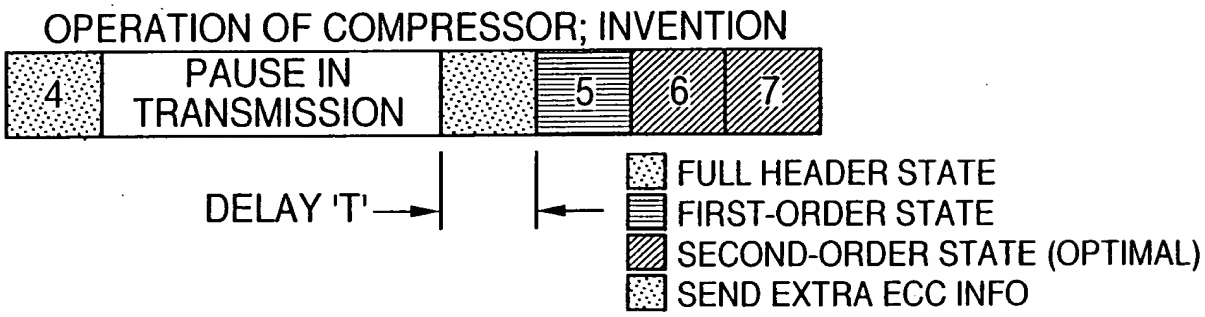

OPERATION OF COMPRESSOR; INVENTION
4
PAUSE IN TRANSMISSION
5
6
7
DELAY 'T'
FULL HEADER STATE
FIRST-ORDER STATE
SECOND-ORDER STATE (OPTIMAL)
SEND EXTRA ECC INFO

FIG. 6

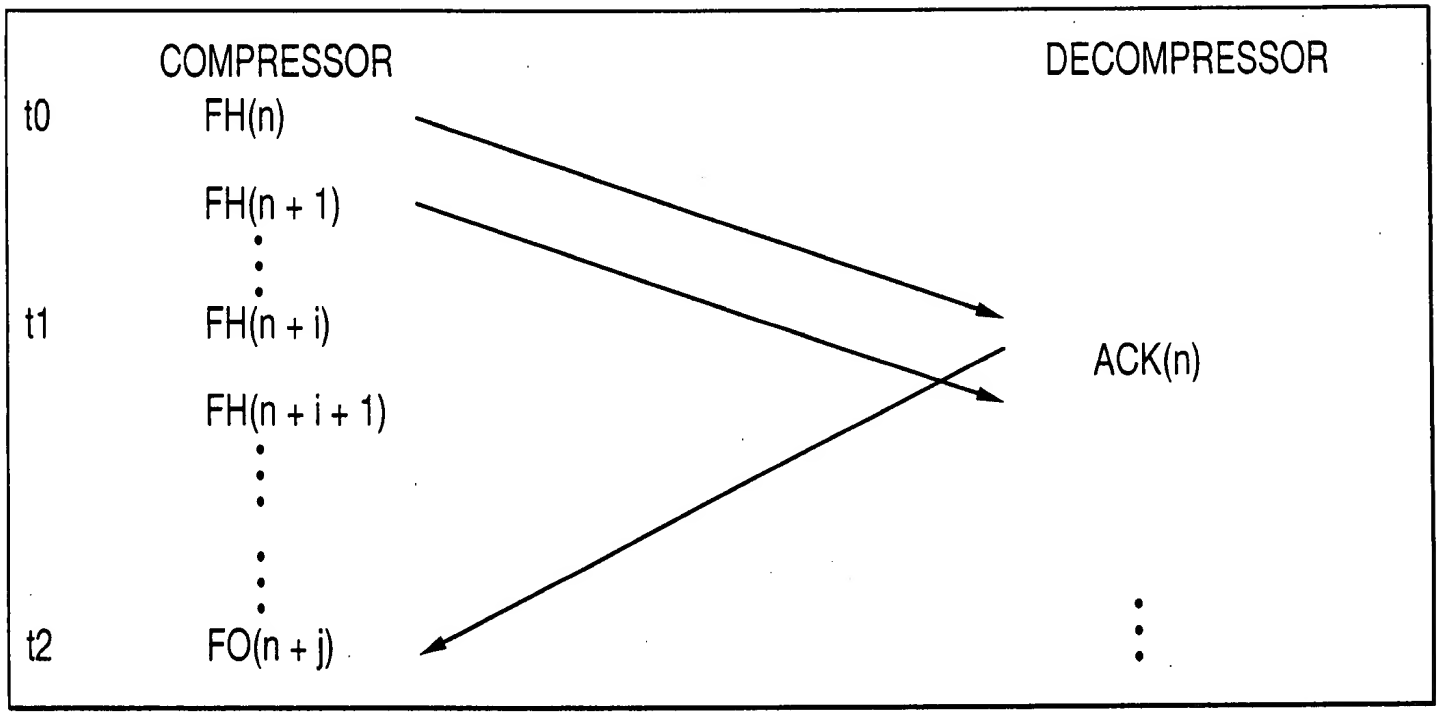

COMPRESSOR
DECOMPRESSOR
t0
FH(n)
FH(n + 1)
t1
FH(n + i)
ACK(n)
FH(n + i + 1)
t2
FO(n + j)

FIG. 7

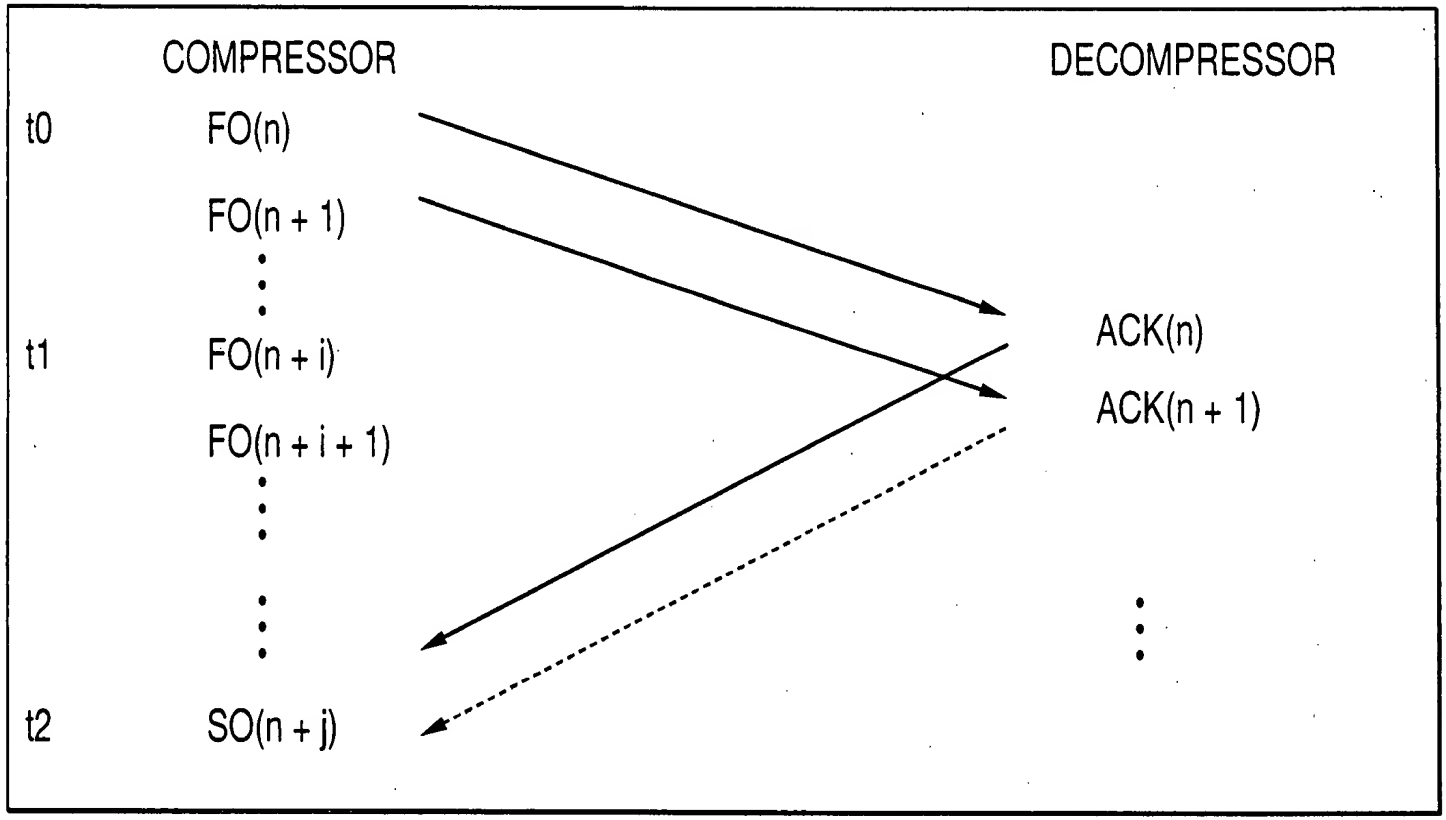


FIG. 8

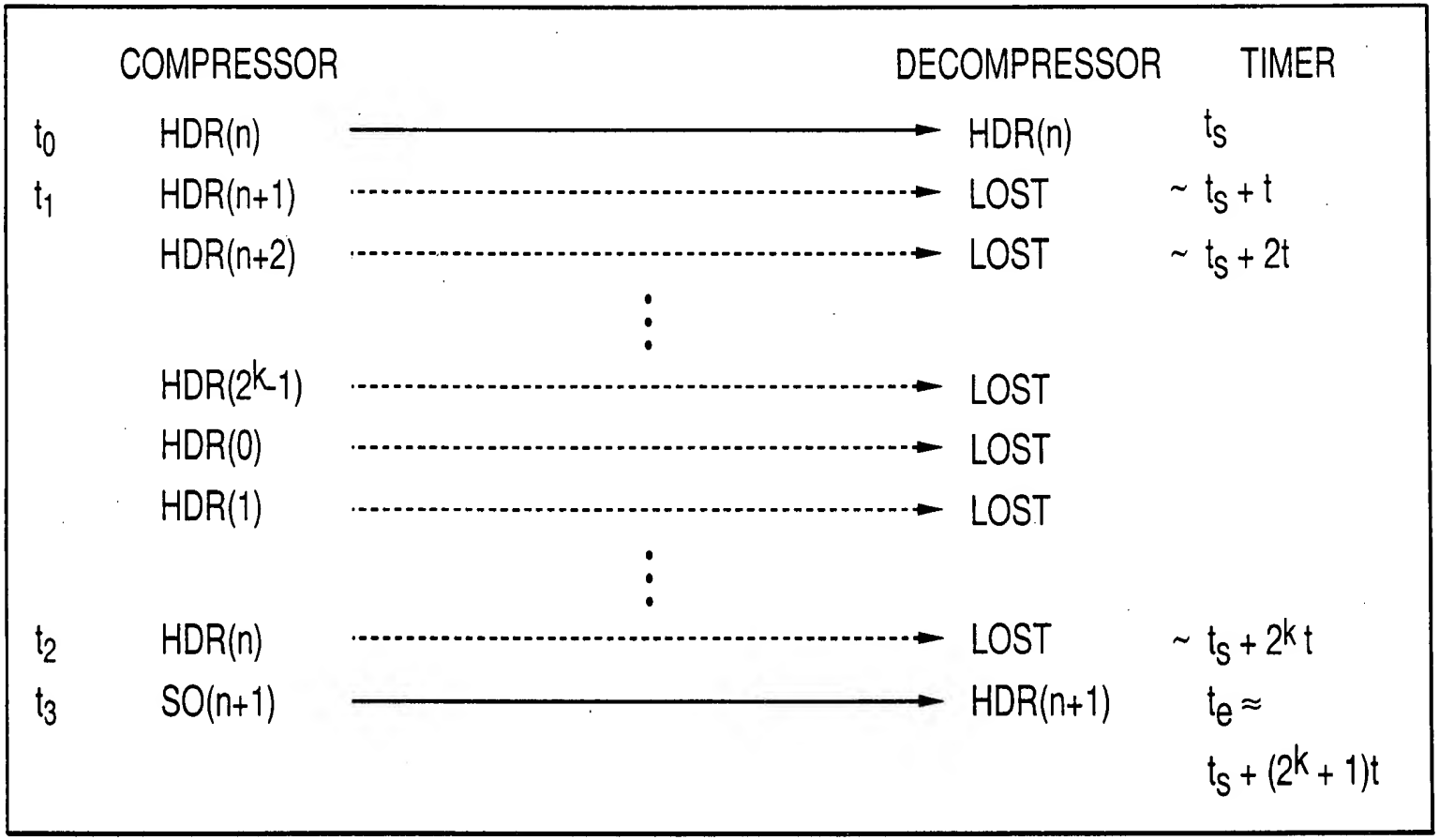


FIG. 9

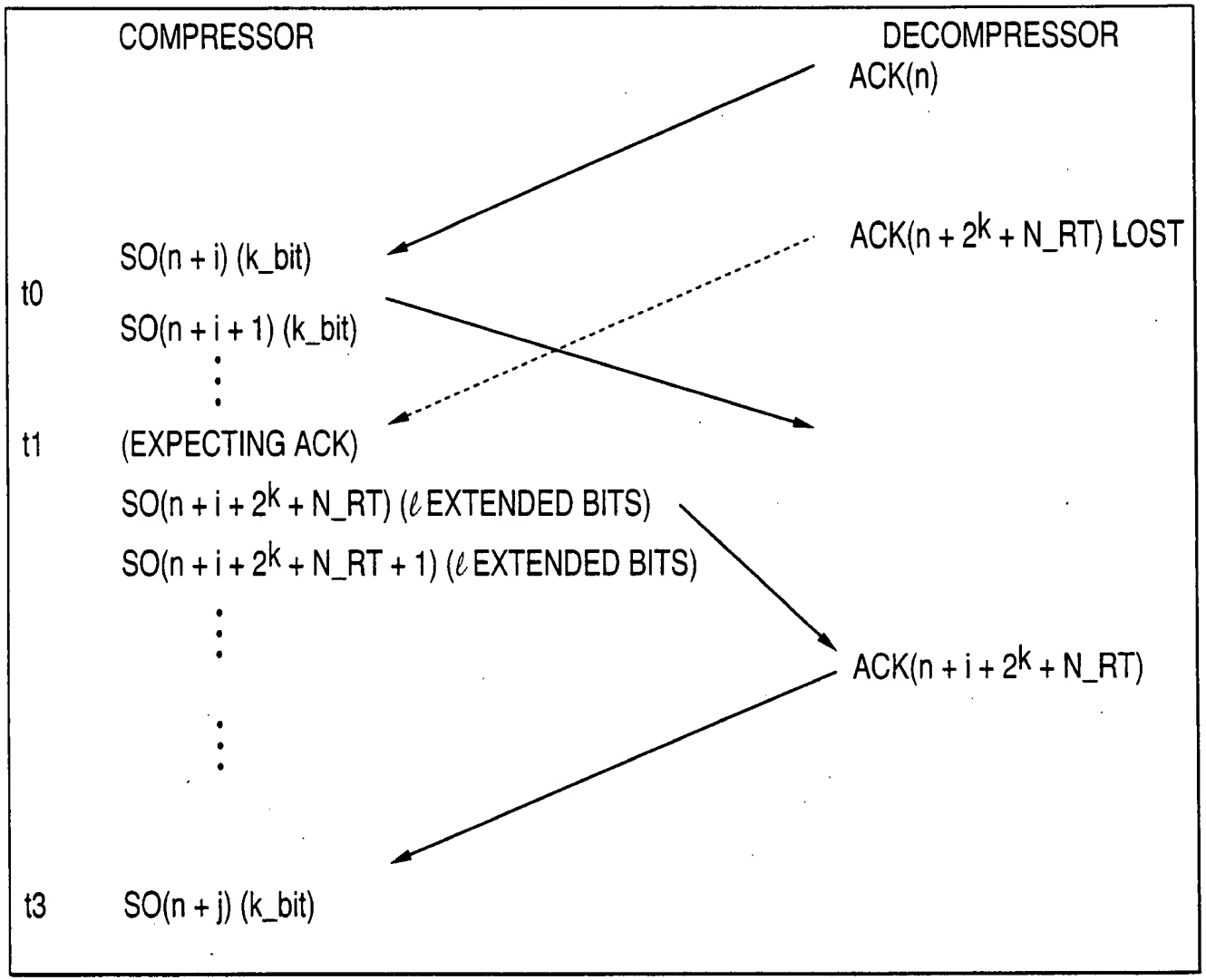

COMPRESSOR
DECOMPRESSOR
ACK(n)
ACK(n + 2^k + N_RT) LOST
SO(n + i) (k_bit)
t0
SO(n + i + 1) (k_bit)
t1
(EXPECTING ACK)
SO(n + i + 2^k + N_RT) (ℓ EXTENDED BITS)
SO(n + i + 2^k + N_RT + 1) (ℓ EXTENDED BITS)
ACK(n + i + 2^k + N_RT)
t3
SO(n + j) (k_bit)

FIG. 10

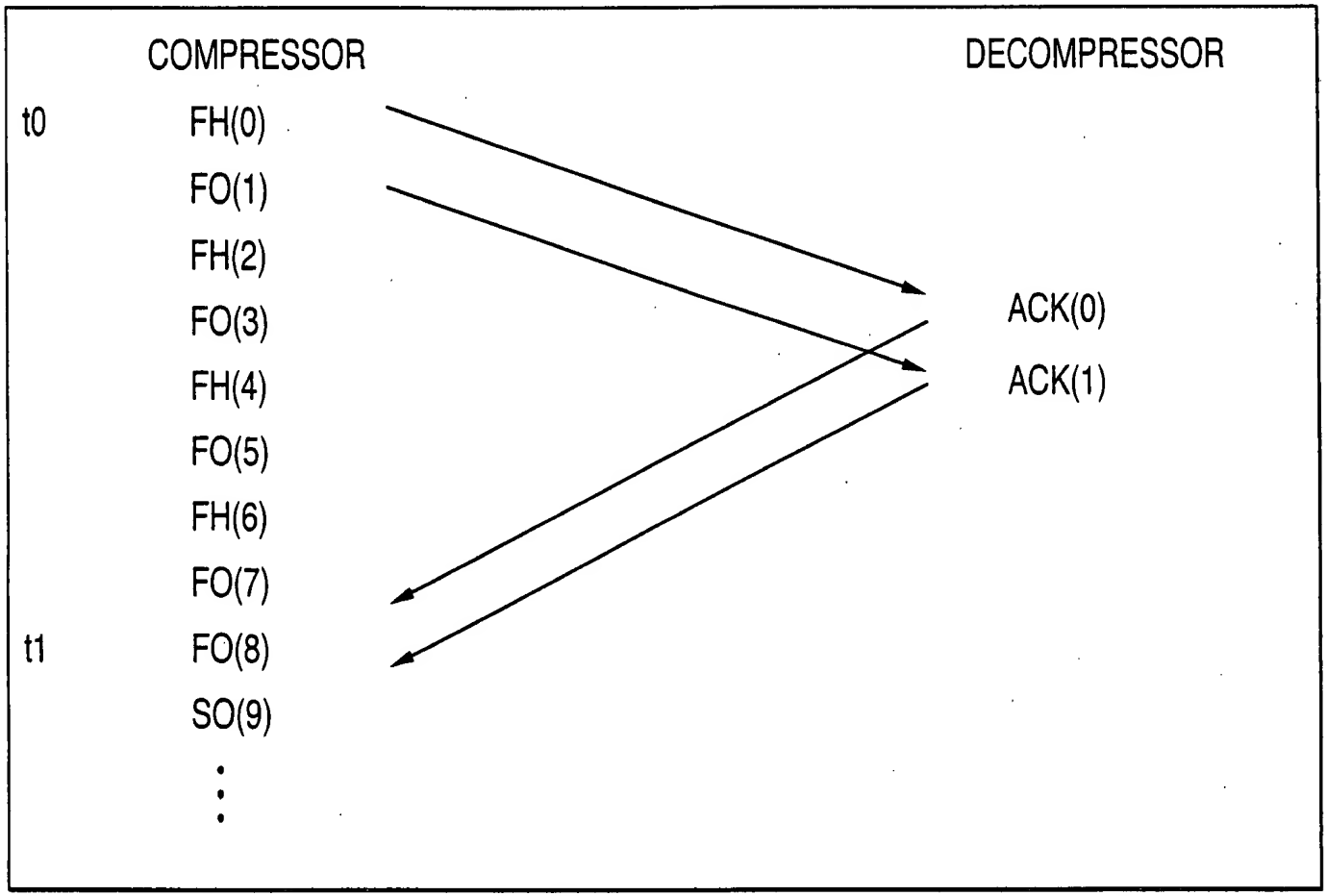


FIG. 11

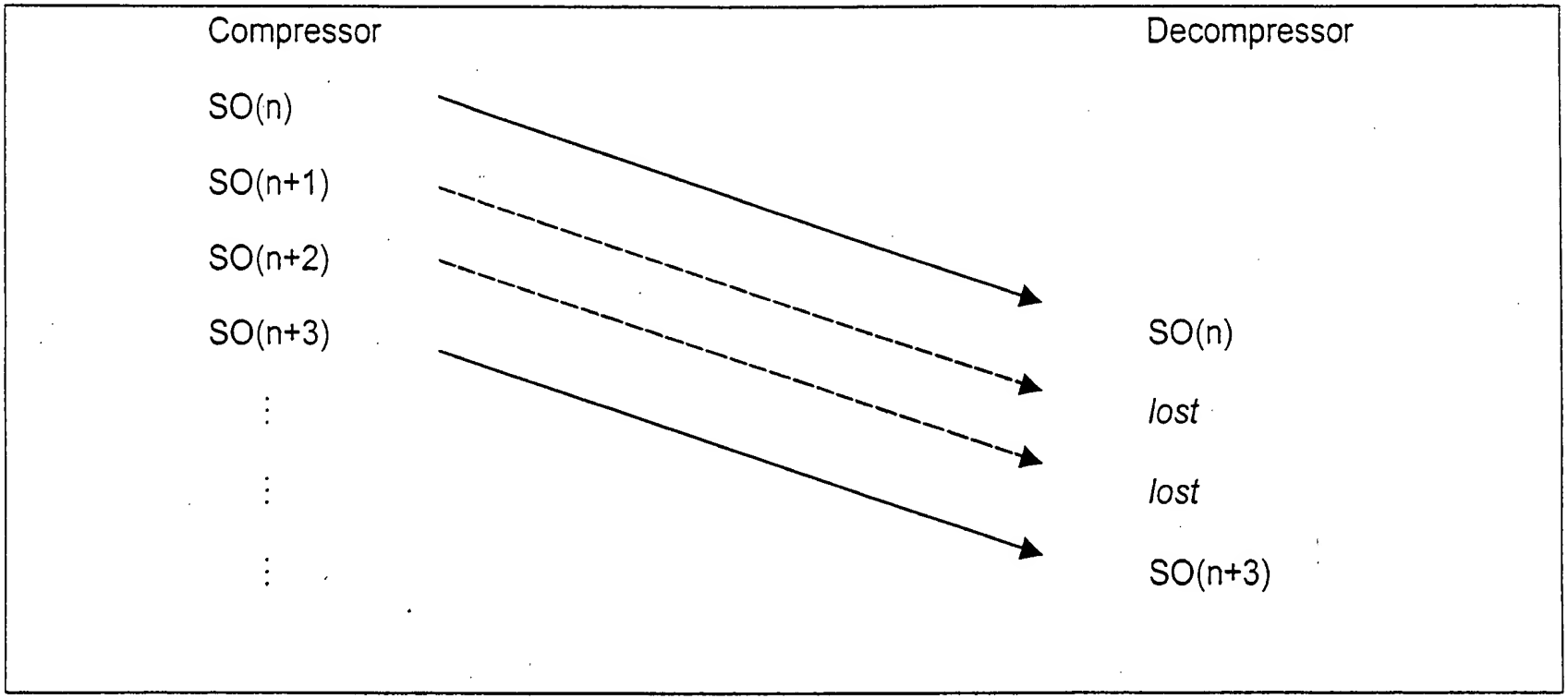

Compressor
Decompressor
SO(n)
SO(n+1)
SO(n+2)
SO(n+3)
SO(n)
lost
lost
SO(n+3)

FIG. 12

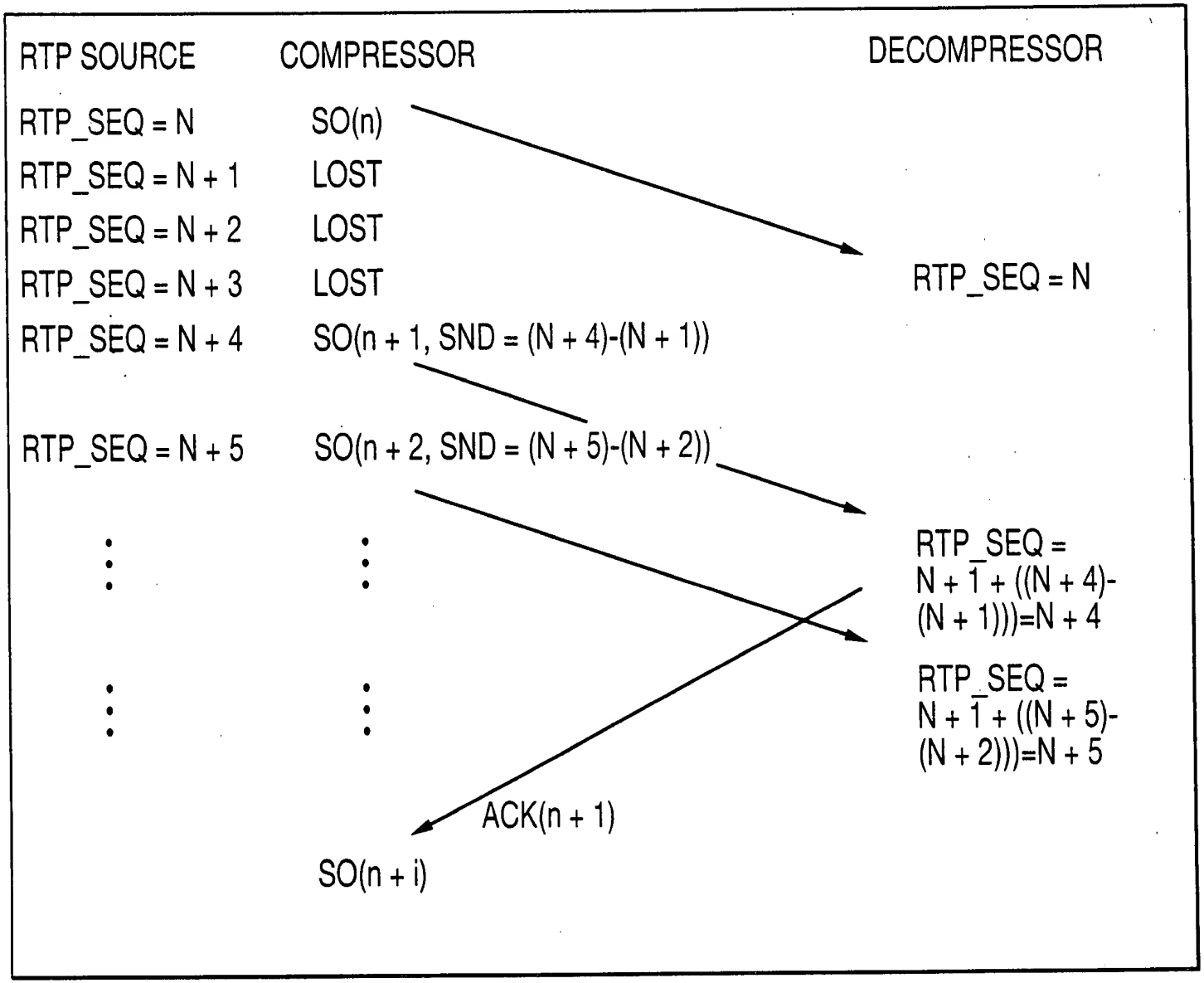

RTP SOURCE
COMPRESSOR
DECOMPRESSOR
RTP_SEQ = N
SO(n)
RTP_SEQ = N + 1
LOST
RTP_SEQ = N + 2
LOST
RTP_SEQ = N + 3
LOST
RTP_SEQ = N + 4
SO(n + 1, SND = (N + 4)-(N + 1))
RTP_SEQ = N + 5
SO(n + 2, SND = (N + 5)-(N + 2))
RTP_SEQ = N + 1 + ((N + 4)-(N + 1)))=N + 4
RTP_SEQ = N + 1 + ((N + 5)-(N + 2)))=N + 5
ACK(n + 1)
SO(n + i)

FIG. 13

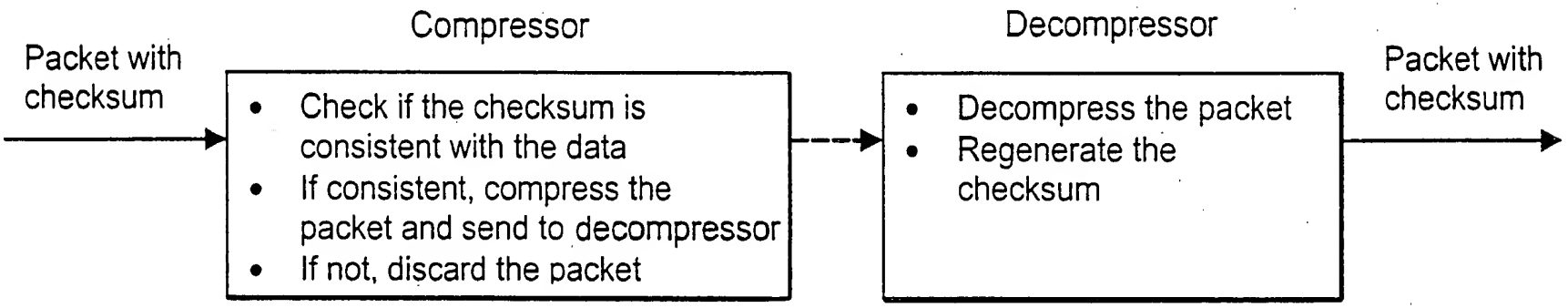

Compressor
Decompressor
Packet with checksum
Check if the checksum is consistent with the data
If consistent, compress the packet and send to decompressor
If not, discard the packet
Decompress the packet
Regenerate the checksum
Packet with checksum

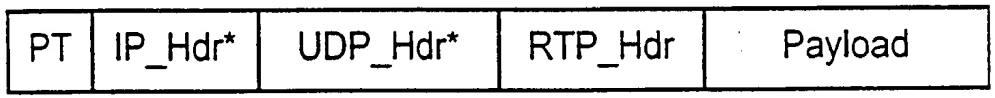
FIG. 14A 1. SO Packet (PT = 0)

FIG. 14B 2. ACK Packet (PT = 10)

FIG. 14C 3. FO Packet (PT = 110)

M – Marker Bit in the RTP Header (1 bit)
T – Flag which is set to 1 if C_RTP_TS is present, 0 otherwise (1 bit)
I – Flag which is set to 1 if C_IP_ID is present, 0 otherwise (1 bit)

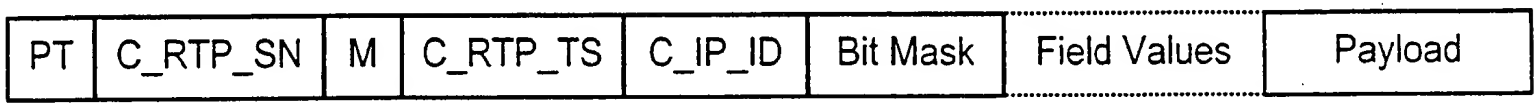
FIG. 14D 4. FH Packet (PT = 1110)



* The length fields in IP and UDP header in FH packets can be replaced with header compression information, assuming the packet length is provided by the lower layer at the decompressor side.

FIG. 14E

5. **FO_EXT Packet** **(PT = 11110)**



- FO_EXT packet will be transmitted only if one or several non-essential fields have changed
  The Bit Mask is used to indicate which fields are present in this packet.
- C_RTP_TS and C_IP_ID will be always present in a FO_EXT packet. Therefore, T and I bit-flag are not necessary.

FIG. 14F

6. **FH_REQ Packet** **(PT = 111110)**

Full header request packet will be sent only under exceptional situations, e.g., system crash

FIG. 15

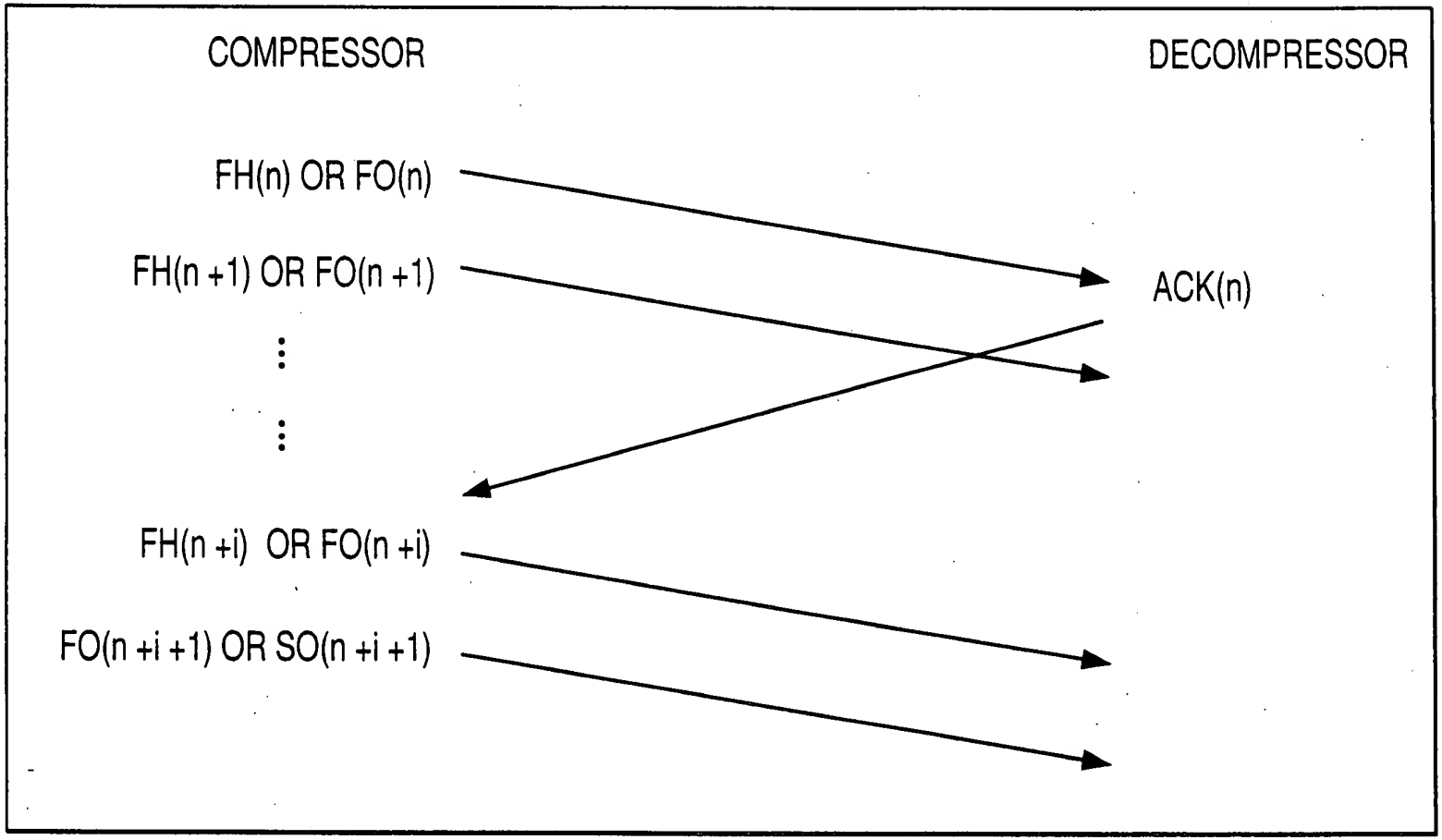


FIG. 16

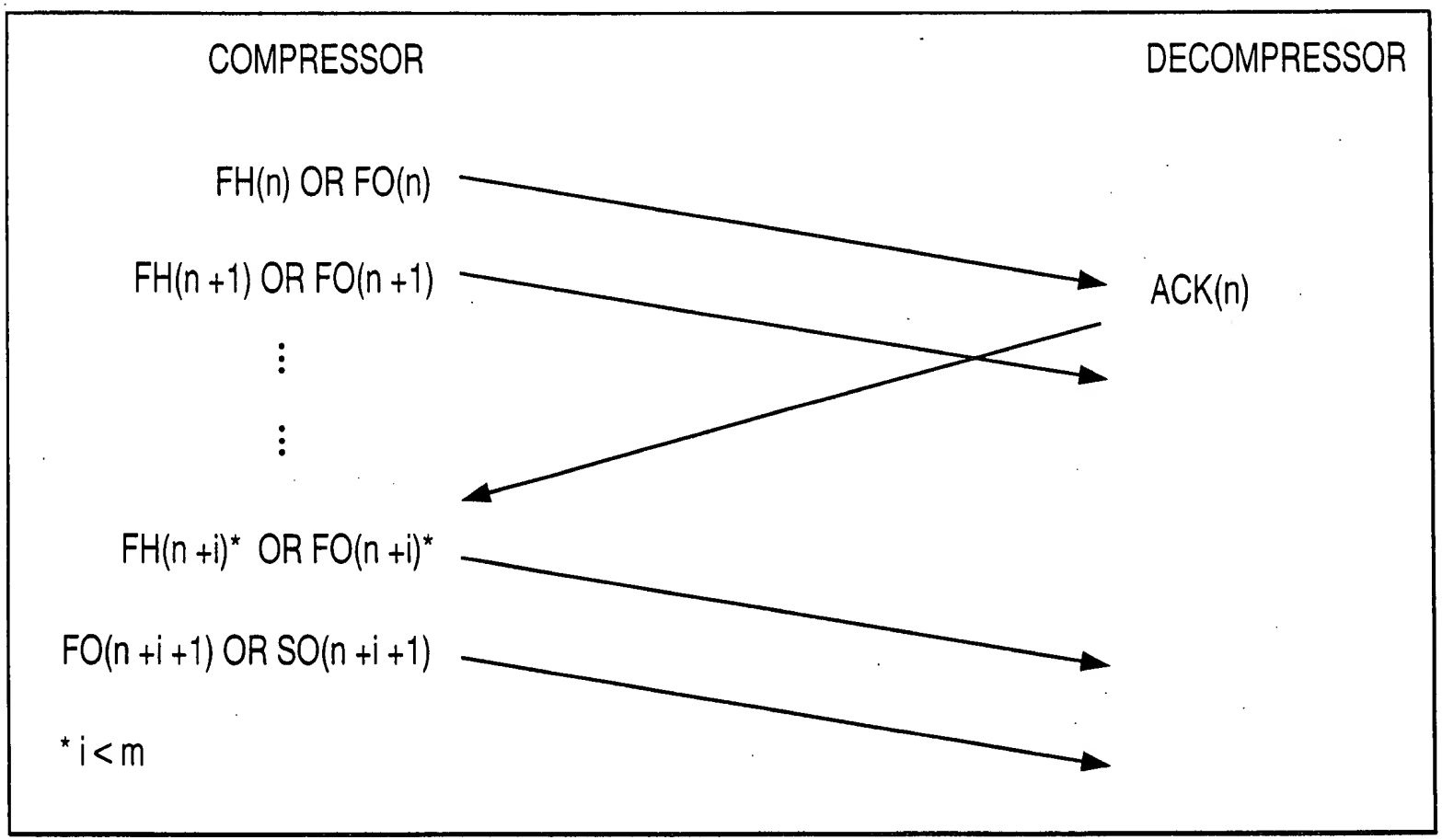


FIG. 17

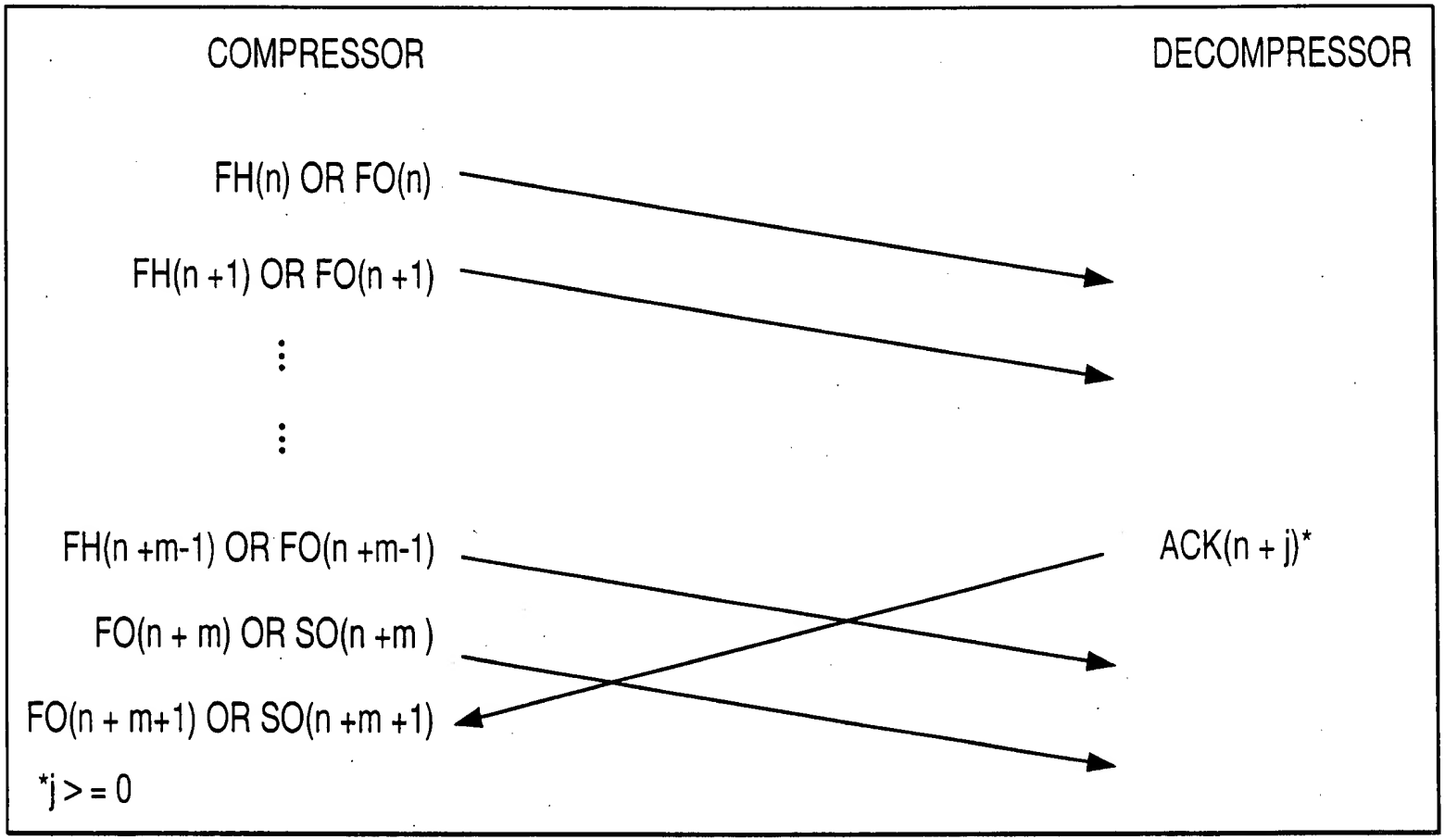

COMPRESSOR
DECOMPRESSOR
FH(n) OR FO(n)
FH(n +1) OR FO(n +1)
FH(n +m-1) OR FO(n +m-1)
FO(n + m) OR SO(n +m)
FO(n + m+1) OR SO(n +m +1)
ACK(n + j)*
*j > = 0

FIG. 18

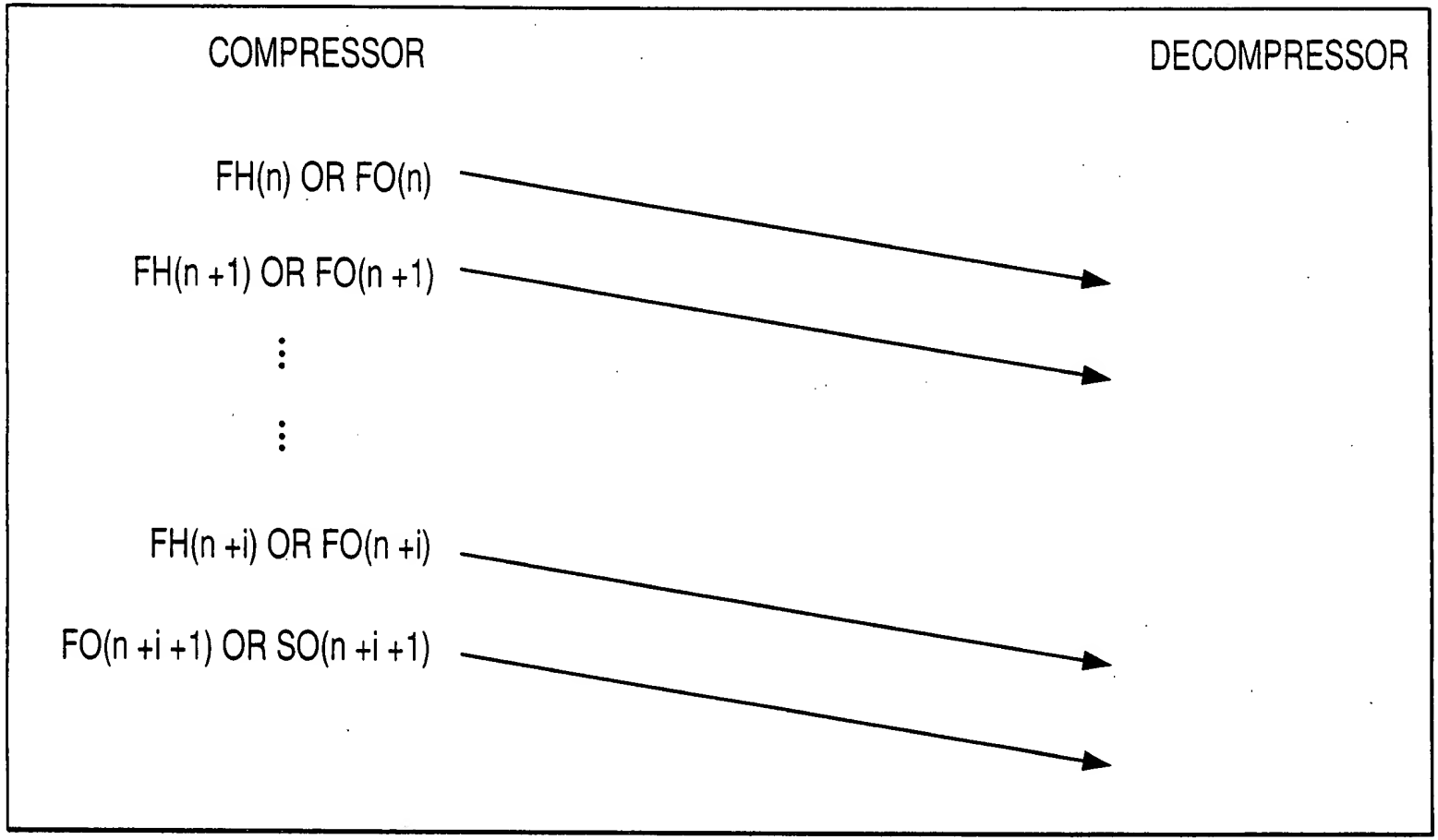
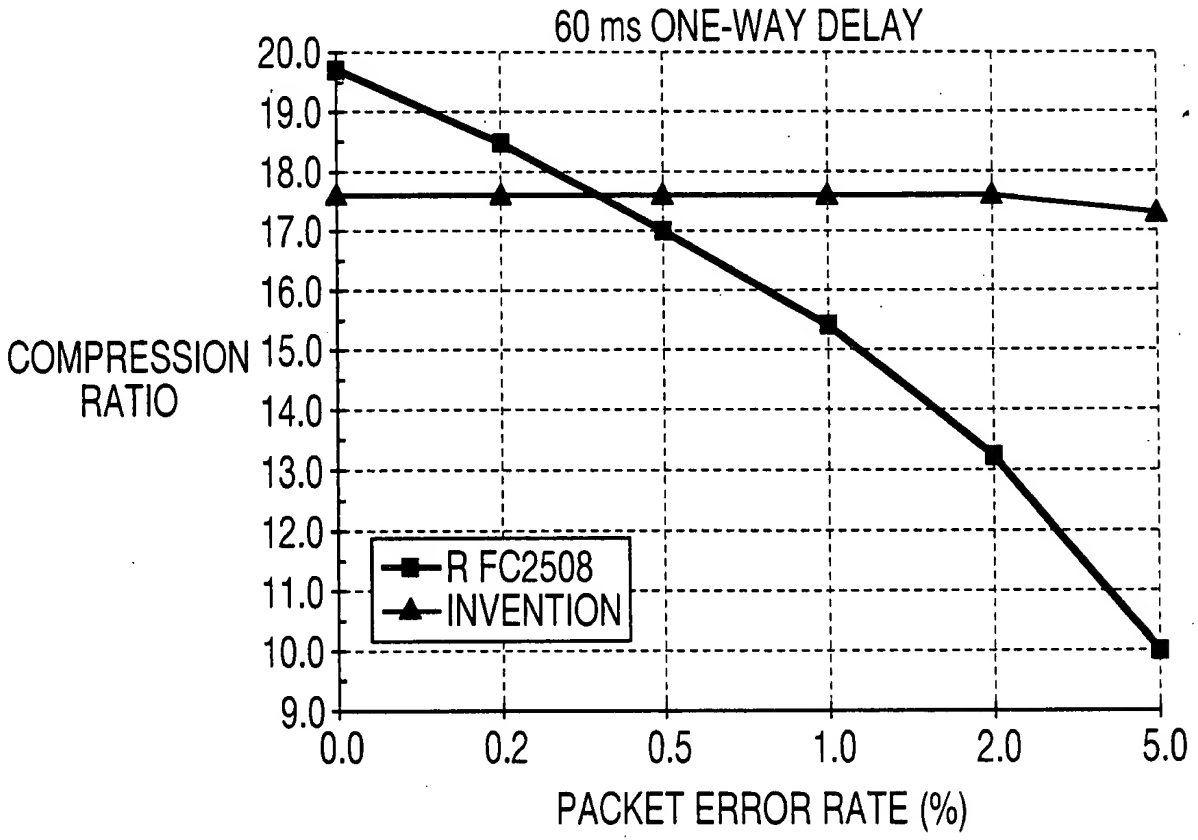


FIG. 20


60 ms ONE-WAY DELAY
COMPRESSION RATIO
20.0
19.0
18.0
17.0
16.0
15.0
14.0
13.0
12.0
11.0
10.0
9.0
R FC2508
INVENTION
0.0
0.2
0.5
1.0
2.0
5.0
PACKET ERROR RATE (%)